THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. V.] Copyright, 1879, HOUGHTON, OSGOOD & CO. [No. 171.

BOSTON, APRIL 5, 1879.

CONTENTS.

SUMMARY: —
Settlement of the Brooklyn Bridge Case. — The Limit to its Cost. — The California Mining Débris Case. — The Burning of a Hotel at Claremont, N. H. — Naphtha Lighting in Brooklyn. — Vandalism in Holland. — Vandalism in Belgium. — The Architectural Dictionary. — Anonymous Communications 105
THE TWELFTH ANNUAL CONVENTION A. I. A. 106
THE ILLUSTRATIONS: —
The English High and Latin School-House, Boston, Mass. — Design for the Hingham Library. — Mt. Ida Church, Troy, N. Y. — Interior of a Dining-Room 107
CORRESPONDENCE: —
Letter from London. — Letter from St. John. — Letter from Baltimore 108
COMMUNICATIONS: —
The Market-House Competition at St. Paul, Minn. — The Construction of Hospitals. — The Coleman County Court House. — Certain Mistakes in House-Planning 110
COMPETITION IN INTERIOR DECORATION 112
NOTES OF EXPERIENCE AND INEXPERIENCE 112
NOTES AND CLIPPINGS 112

THE most important incident, aside from matters of national politics, which occurred last week was the rendering by the Court of Appeals of a decision that a writ of peremptory mandamus shall issue against Comptroller Kelly, of New York, compelling him to pay to the trustees of the Brooklyn Bridge the million dollars which are due from the city of New York for the year 1878. It still remains uncertain whether the legislative committee, which has just concluded its investigations in New York, will find reasons for, or means of, preventing the completion of the bridge; but the opinion of the Court of Appeals, written by Judge Earle, makes improbable any such action on the part of the legislature, for it declares that so long as no departure is made from the plans accepted by the legislature in the act of 1875, and approved by Congress, it is bootless to inquire whether the bridge will interfere with the free and common navigation of the river; because "what is thus sanctioned by state and national legislatures cannot be a nuisance, or otherwise unlawful." The action of the comptroller in withholding payment of the money demanded by the trustees, because he considered that they were extravagant in its disbursement, and because he believed that the bridge when completed would be useless and unsafe, is censured as being as unjustifiable as it is novel. It thus appears that Mr. Kelly, who has acted throughout in opposition to the advice of Corporation Counsel Whitney, his lawful adviser, has gained nothing by his obstructiveness except a judicial rebuke; while he has added to the burden of the tax-payers the costs of three lawsuits, and the interest on the sum which is declared to be due the trustees, — interest which, it is said, runs at the rate of two thousand dollars (?) a day. Add to this the six months' interruption to the work, which delays by just so much the time when the bridge can begin to recoup its builders, and it will be seen that New York has small reason to applaud its comptroller.

THE really important point in Mr. Kelly's defense, namely, the improbability that the bridge can be completed at a cost within the eight million dollars which the legislature has consented shall be spent upon it, the opinion says, does not support him in any way in his refusal to supply the money. The bridge, which was begun by a private corporation in 1867, under authorization of an act of legislature, was permitted to become by purchase, in accordance with the act of 1875, a public undertaking, upon whose prosecution the act authorized the expenditure of eight million dollars, of which amount Brooklyn was to pay the yearly quota of two millions, while New York paid one million. So long as they did not depart from the plans which were accepted by the legislature, the trustees were acting within their right in exacting from both cities the payment of the sums mentioned, even though it were certain that the expenditure of the eight millions could not complete the bridge. The naming of this sum must not be taken as fixing a limit of cost within which the bridge must be finished, or forever left unfinished; it was merely the sum which the cities were authorized to expend under that act. It was perfectly competent to the legislature to authorize the two cities to expend other millions, or even to complete the bridge with money drawn from the State's coffers. It was impossible to calculate the exact cost of an undertaking of such magnitude and unusual character, which must continue through many years, and therefore it would be unjust to assume that the legislature had undertaken to fix the ultimate limit at eight millions; while it would be equally unjust to pretend that it was not the intention of the legislature that the bridge should be finished. From this opinion three of the seven judges dissented, and in an opinion written by Judge Folger declared that the act of 1875 limits the total cost to eight millions. Until this limit is reached, however, it seems little likely that there will be any further delay on the part of either city in furnishing its allotted contribution.

ANOTHER interesting lawsuit has been decided recently, which we have mentioned from time to time; not because it was connected with architecture in even the remotest degree, but because it was of general interest, in that it was likely to show how great weight was to be accorded the unquestionable rights of the individual, when opposed to the interests of the most important industry in a great State. In spite of the certainty that such a decision will cause an immense depreciation in the taxable value of certain property in California, a decision has been rendered in what is known as the Mining Débris Case to the effect that hydraulic mining cannot be legally pursued, unless the property of landholders along the stream used for washing can be protected from overflow and damage. In the special instance which was made the test case, it was to be decided whether certain hydraulic mining companies had a right to destroy ultimately forty thousand acres of arable land in the valley of the Bear River, by continuing to discharge into it the tailings of their washings, the effect of which had been already to choke up the natural bed of the river, and to cause it to seek new channels here and there through the valley; in doing which it had overflowed certain lands seventy miles distant from the mines, and had covered them with slickens, sand, mud, and grit to a depth varying from three inches to fifteen feet. This decision will practically put a stop to hydraulic mining, at least as at present conducted.

IT would have been reasonable to hope that the "defective flue" had done all the havoc it could do during the early winter, and that at this season of the year we should not be called on to speak of so distressing a disaster as the burning of the Tremont House at Claremont, N. H., where five persons were burned to death in the middle of the night, while others received serious injury. The burning of this four-story wooden building of moderate size suggests sufficient food for thought. It shows that relief from a large proportion of such disasters must be sought, not through building laws, for they can be enforced only in cities, but by educating the mechanics, who, unadvised by architects, build the greater part of the buildings in which the inhabitants of this country are housed, to an appreciation of the fact that there are in the construction of almost every building times when the rule of thumb cannot be followed safely. It also suggests how much greater would have been the loss of life if the building, instead of a country tavern, had been one of the immense hotels of our cities, with its tortuous and unlighted passages, and its many stories served by two, or, at most, three staircases, of whose topographical relation to their rooms the guests are generally ignorant, because of their habit of ascending and descending by the elevators.

IT is regrettable that the mayor of Brooklyn did not see fit to veto at once, on its own demerits, the action of the aldermen in voting to light the streets of that city with naphtha, rather than to assume the very undignified position of one who delays to use the veto in order that the gas companies, competitors of the Automatic Gas Lamp and Lighting Company, may be induced to modify their bids. Whatever the motives which actuated the mayor, the city has probably escaped a great peril, for of all the hydrocarbons naphtha is one of the most unstable, unless properly distilled and clarified. So dangerous is it that one of the large insurance companies in New England, a company which has risks on forty millions' worth of property, although its losses last year were less than a thousand dollars, a fact which indicates a prosperity which would almost justify it in accepting some dangerous risks, does not allow a particle of naphtha to be used

in any of the buildings it insures. In the Brooklyn case the naphtha was not to be distilled and distributed to the lamps through gas-pipes, as might be supposed, but each lamp-post was to have its own reservoir of fluid and distil the gas as it was required, — a system which is adopted in country towns, where the occasional explosion and extinguishment of a lamp does no great damage, but which would be extremely dangerous in a large city.

The editors of that admirable *journal de luxe*, *L'Art*, have instituted lately a new department in their journal entitled "Vandalism," of which they say, "Under this head we will stigmatize henceforth, pitilessly and without truce, all acts of barbarism in matters of art which may be brought to our notice, even though in so doing we should attack our own friends." The first instance of vandalism that is thus publicly arraigned is the action of the Dutch Government, in threatening to abolish the commission which, only some four years ago, was appointed to the charge of the artistic and historical monuments still remaining to the kingdom; remains which, uncared for and unprotected as they too often are, still make Holland one of the countries which the artist, be he painter, sculptor, architect, or cultivated amateur, most delights to visit. Whether the necessities of their graceless king, or the careless ignorance of the value of works of art which is to be expected of any ordinary body of legislators, is the cause of this retrograde step, so much at variance with the movement of the day in all other civilized countries or not, it is one which is too likely to bring about a return to those times when it was possible for individuals and bodies corporate to traffic without let or hindrance in their rich inheritance. Thus in 1871 it was possible for the directors of the South Kensington Museum to acquire for forty-five hundred dollars the marble rood-loft, the work of Conrad van Noremborgh, of Namur, which was one of the noticeable features of the church of St. John at Bois-le-Duc, in North Brabant. To be sure, the church, built in 1419–1497, is spoken of as one of the most perfect of Dutch mediæval churches (see *American Architect* for May 6, 1876), while the rood-loft bears the date 1625, and is pronounced Renaissance in style; so that in the absence of information on this point we may assume that it was removed in order to be replaced by one more in keeping with the style of the church itself. Still this does not excuse the sale to a foreign country of a work of much artistic merit. It may be remembered that a similar sale at Brescia, in Italy, recently caused the Minister of Public Instruction to issue an order that no more such sales should be made without authority.

The second instance mentioned by *L'Art* concerns the Royal Museum of Antiquities, Armor, and Artillery, which is housed in the only one of the gates of the city of Brussels which was left standing at the time when the ancient ramparts gave place to boulevards, after the prevailing fashion in European walled towns. This gate, La Porte de Hal, in form a donjon-keep, has, by the way, considerable architectural merit. As director of this museum M. Théodore Juste, member of the Royal Academy of Belgium, was installed not long ago, not because he was the man best fitted for the place, but because he had proved himself a very uncomfortable member of one of the ministries, and his colleagues thought that this was a good chance to get rid of him. "M. Juste," says *L'Art*, "has compiled several books of history, bulky books, which do not imply, however, that he is a historian." This passion for book-making seems to be likely to prove his ruin, for he has lately issued the fourth edition of a partial catalogue of the collections in the museum, of which catalogue the commission which has the supervision of the museum has asserted that it contains "almost as many errors as words." Against the outrage of continuing in office a man at once so ignorant as to make, and so obstinate as to refuse to correct, the grossest errors, the commission, which is composed of men of high rank and of undoubted archæological acquirements, has appealed unavailingly to the ministry which appointed M. Juste; for the only reply that was vouchsafed was that the fault lay with the commission for allowing the original publication of the catalogue. Thus supported, M. Juste still remains in power, and in wilful ignorance. It is unquestionably worth while to draw attention to such mistakes as these, though, acts of vandalism as they are, one need not go outside of Paris to find doings as objectionable, for it must remain a lasting subject for regret that the charms of old Paris, which have been immortalized in the etchings of Méryon, are so rapidly disappearing in all directions before the successors of Baron Haussmann.

Just at this juncture American architects who can afford to add a valuable work to their libraries can render a real service to the profession at large by subscribing to the dictionary which has been publishing in London under the auspices of the Architectural Publication Association for a series of years. What is the history of the undertaking, who were its originators, we do not know. The publication of the dictionary advanced satisfactorily for a number of years, the different parts in which it was issued appearing with sufficient regularity to satisfy those who had subscribed to it, until it reached the letter M, when the funds had become so diminished that it was thought best to abandon publication until they could accumulate by gathering interest, and be increased by new subscriptions. In 1874, thanks to this prudent policy, the association was able to resume its labors, and during the last year a part was issued which covers the letters M, N, O. This renewed activity met its reward in the new subscribers who were attracted, so that the amount that the association has in hand is only some six hundred dollars less than it was in 1874, and the association hence is enabled to proceed with the preparation of the letter P, the work being conducted under the charge of Mr. Wyatt Papworth, with whose revision of Gwilt's Encyclopædia of Architecture most of the profession in this country must be familiar. The dictionary, which is well worth having, is a royal quarto in form, illustrated by wood-cuts in the text and by lithographic plates, which are sometimes devoted to single subjects, at others exhibit groups of illustrations which have no connection one with the other save that their initial letters are the same. As to these lithographic plates, we trust that the management will see the wisdom of adopting, instead of the true lithographic method hitherto followed, some of the modern processes of photo-lithographic reproduction, even at the cost of sacrificing uniformity of style. The association appeals for subscriptions, £21 for the parts already issued, and for contributions to the text. As it will doubtless be glad to obtain American subscribers, we venture to think that it will not be unwilling to receive literary contributions from American architects, should any one be moved to offer anything on topics which can be treated in the remaining portions of the work. There must be many terms, materials, processes, and utensils peculiar to American usage, which ought properly to find a place in a work which for many years must remain the most important architectural dictionary in the English language.

The receipt within a short time of several anonymous though unobjectionable communications seems to show that the rule, that all communications, however trifling, must be signed with the name and address of the writer, as a guaranty of good faith, universally observed by all editors who strive to keep the purity of their columns above reproach, cannot be repeated too often. In no department of our paper is the enforcement of this rule so necessary as in the department of Notes of Experience and Inexperience, where the temptations and opportunities for the practice of what we trust we may without offence style "business subterfuges" are exceptional. Oftentimes the answer to a question will be to the direct pecuniary advantage of some dealer or manufacturer, but provided we are assured of the good faith of the questioner we shall be ever ready to give the answer. As to answers which may be to the disadvantage of any one, we will strive to use all due discretion and judicial consideration.

PROCEEDINGS OF THE TWELFTH ANNUAL CONVENTION OF THE AMERICAN INSTITUTE OF ARCHITECTS, HELD NOVEMBER 13, 1878.

EVENING SESSION.

The Convention met at 8 P. M., and was called to order by the President.

Before proceeding to the reading and discussion of papers, which was indicated on the programme as the business of the evening, it was voted that the chair appoint a nominating committee, in order that they might have time to consult before the opening of the morning session on the following day, which was the time appointed for election of officers.

The first paper read was on The Plumbing in a First-Class Boston House, with an Account of some Sanitary Experiments, by Mr. Clark, of Boston. (See *American Architect* for March 8 and 15, 1879.)

Mr. Stone mentioned that he had found difficulty in using brass pipes for cold water under the street pressure, which in the lower parts of the city of Providence amounted to 70 pounds per inch, and had seen the pipes split for some distance, doing serious damage.

In answer to a question how the brass pipes were kept from tar-

nishing, MR. CLARK said that the practice was to polish them and give them a coat of shellac varnish.

MR. POST said he had used brass pipe in the plumbing of a hospital, supplied from tanks in the top of the building, and they had done very well. There was no trouble in keeping them tight.

The next subject on the programme was The Prevailing Faults of our Architectural Designs. The president called upon Mr. Cady for papers. MR. CADY read letters on the subject from Mr. Cummings, of Boston. The third subject was The Use and Abuse of Brick in Decoration. MR. LITTELL read a paper.

No other papers being presented, the committees were announced as follows: —

Auditors, Messrs. Murdock, Stone, and Bloor.

Nominating Committee, Messrs. Post, Longfellow, and Robertson.

Mr. Post declining to serve, Mr. Stone was substituted on the nominating committee.

Letters were read from Mr. Leonard F. Beckwith, president of the Fire-proof Building Company, of New York, Corresponding Member of the Institute, and from Merchant & Co., 53 Broadway.

MR. STONE, referring to the passage in the paper last read which spoke of the smallness of the pieces of terra-cotta as a reason why stone was preferable, said that he had lately used terra-cotta in large pieces for window-caps, and in other places, and found the work, in some cases six or seven feet long, well and uniformly burnt, straight and free from distortion, and of great strength. He could not see why burnt clay should not replace stone, especially in fire-proof construction, for which it was particularly adapted. Where used in connection with brick, either perfect similarity or striking contrast of color could be obtained at pleasure, and it would seem that the modelling of the clay by the artist's hand before burning was as artistic and effective a process as the laborious carving of stone. He thought that the recent fashion of carving brickwork, after laying in the wall, was a step in the wrong direction, and that it was more logical to model the clay in its plastic state, before burning, into the forms required.

MR. LITTELL agreed with Mr. Stone in regard to the carving of brickwork after laying. As to terra-cotta, he had not himself seen any which was so agreeable to his eye in texture or color as stone. As in sculpture a plaster cast was less pleasing than the marble original, although the form was the same, so with terra-cotta, which resembled plaster in some ways, as compared with stone in architecture. Another point was that to the eye, at least, the impression given by terra-cotta was that of weakness in comparison with stone, and he thought it necessary that a material should not only be strong, but look so.

MR. POST remarked that the durability of terra-cotta was shown by its remaining intact in the Roman walls after the walls themselves had crumbled away several inches. He thought part of the bad effect which the use of brick had sometimes on the design was due to the inability of the designer to master his material. There was no inherent reason why a design executed in terra-cotta should not be as effective, and it would certainly be as durable, as one carried out in stone, — much more so than one in sandstone. He had always brought himself with reluctance to the execution of an important building, which ought to last for ages, in sandstone, which was certain soon to begin to decay, and might perish even within his own lifetime. As to the difference in beauty between the clay and the marble in sculpture, he thought in practice that the clay models prepared to carve from were generally superior to the stone copy. Probably most architects had seen clay models which as they left the hands of the artist were very fine, but were entirely spoiled in the reproduction in marble, in spite of the beauty of the material. He was by no means an advocate of the substitution of terra-cotta for stone, but thought each was good in its proper place.

MR. ROBERTSON pointed out that the advantage of carving on brickwork over terra-cotta ornamentation of the same kind was that the carving of the brickwork was done in place, and could be controlled with regard to the effect which it was intended to have from the place where it would be seen, while a terra-cotta panel or ornament must be modelled and burnt separately, and to some extent in ignorance of what its effect would be in place, and it was quite possible that the result would be disappointing, when the work was set, and it was too late to alter it.

MR. LORING asked how Mr. Robertson would alter a moulding cut on the brickwork, if he was not satisfied with it, or whether, if it could not be altered, there was any way of insuring that the carving would be free from mistakes.

MR. ROBERTSON said that mistakes could not be avoided absolutely, but that the chance of obtaining a good effect was better when the designer could study the execution on the spot, than where the material must be wrought elsewhere and brought to its place.

MR. LORING asked if it would not do to have the soft material modelled in place.

MR. ROBERTSON thought that would be an advantage, if practicable.

MR. LORING considered it perfectly practicable, and that there was no more difficulty in modelling the clay in the place it was to occupy than in carving stone in place, with the advantage that a mistake in stone sculpture could not be rectified, while the clay could be added to and changed at pleasure, and fixed by burning when the desired effect had been obtained.

MR. POST thought it would be much more advantageous to have the clay modelled from the drawing by a skilful artist, and then burnt, than to entrust the execution to a journeyman carver. He felt safer with a man held to strict conformity with the drawings by section lines and careful indication, than in sending a workman, perhaps skilful, or perhaps not, to execute the work in place according to his own fancy. He thought it would be difficult to carve brickwork so that the joints would not in the course of years be washed out in our trying climate.

MR. STONE asked what expedient was resorted to in carving brick to overcome the difficulties arising from the porous or cellular structure which most bricks exhibited when broken; and Mr. Robertson explained that special bricks were made for carving, which were homogenous in texture throughout.

THE PRESIDENT wished to say a word in regard to the remarks that had been made in the course of the discussion on the difficulty of getting good carving in stone or marble. He thought it was entirely practicable to get as good sculpture for architectural decoration as ever was executed. In the Public Buildings in Philadelphia the sculptured parts were first modelled in clay by skilful artists, and carefully corrected in place before handing them over to the workmen for execution. The model was photographed, and the workman followed it exactly. The sculpture for the Capitol at Washington was modelled by Mr. Crawford, and the design was so exactly followed that the finished sculpture could not be distinguished from the model. He thought there was a tendency to ignore the part of the workman in the carrying out of a design. We had men who could do as good and intelligent work as the artisans of any age, and these should be sought out and their position recognized.

MR. WALTER continued with some remarks about the best kind of building stones for use in structures intended to be permanent. In his opinion the true marble was not fit for building; nothing but granite and dolomite, or magnesian limestone, could be depended upon. Architects employed sandstones and marble without sufficient study of their qualities. Marble was quickly acted upon by the acids in the air, particularly by the sulphurous acid evolved from burning coal. In the Mint at Philadelphia it was necessary to take out the marble columns and replace them with granite. No stone that would effervesce with acids should be put into a building, nor any which, like sandstones, crumbled away with the weather. Dolomite, unlike the ordinary marble, was unaffected by acids. A drop of muriatic acid on a piece of marble would run through it, while on dolomite it would remain like water. The crushing strength of dolomite he had found by many experiments to be more than three times as great as that of marble. It was dolomite which was used in the public buildings at Washington, and in those of Philadelphia.

MR. LORING remarked that terra-cotta, or burnt clay, offered a material which could not be affected by acids, and whose crushing strength exceeded that of any stone, under favorable circumstances.

After a few remarks by MR. ADAMS, of the Peerless Brick Co. of Philadelphia, upon the mode of preparing bricks for carving, by excluding the pebbles which were common in bricks as ordinarily manufactured, a vote of thanks to Mr. Beckwith for his invitation was passed, and the Convention adjourned to the following day.

THE ILLUSTRATIONS.

THE ENGLISH HIGH AND LATIN SCHOOL, BOSTON, MASS. MR. G. A. CLOUGH, CITY ARCHITECT.

EARLY in May, 1874, plans for these buildings were submitted in open competition by many architects in Boston and other parts of New England. The competition resulted in the award of the four prizes offered to Mr. Carl Fehmer, Mr. S. J. F. Thayer, Messrs. Ware and Van Brunt, and Messrs. Sturgis and Brigham, all of Boston. Why the first prize design was not carried out we do not know, but we believe that the competition itself is regarded as one of the few public competitions whose conduct left small ground for cavil. The matter was left in abeyance until the institution of the office of city architect in that or the following year made it desirable that the design and construction of these buildings should be placed in the hands of this official. New designs were prepared and accepted, and work was begun during the last part of the season of 1877. Since then the progress has been steady, and now those of the buildings which are be to built at present are roofed in and in the plasterers' hands.

The buildings have three stories and a basement in height. The style is modernized Renaissance, having all the lines of strength treated in stone, the frieze courses inlaid with terra-cotta, while the background is of Philadelphia brick. Practically, the buildings will be fire-proof throughout, each school-room being surrounded by a brick wall, the corridor floors laid on brick arches, and the staircases built of iron. The lot of land upon which these two schools are building is rectangular in its outline, and measures 220 feet by 423 feet. The actual area covered by both buildings is 48,560 square feet, not including the administration building fronting on Dartmouth Street, which is to be built hereafter. The Latin School occupies the building fronting on Warren Avenue, while the English High School fronts on Montgomery Street, the two buildings being separated by the intervening area for light and air, which forms the playground, and are connected only by the drill-hall and gymnasium at the rear, which apartments are to be used in common, and also by a corridor which crosses the area in the centre of the buildings. Each building

contains twenty-four school-rooms, a lecture hall with cabinets attached, an exhibition hall and library room, and living accommodations for a janitor, and the English High School has its laboratory and chemical lecture room. The school-rooms are arranged principally on the street fronts, and each school-room has a seating capacity for thirty-six pupils, the average dimensions being 24 feet by 32 feet, and 13 feet 6 inches in height. The four corner rooms of each of the buildings receive their light by four windows from two sides. All other rooms are to be lighted by the same number of windows on one side, on the left of the pupils. The windows are of large proportions, extending to within 8 inches of the ceiling. The lecture halls and library rooms, both for the English High and Latin Schools, are equally accessible from both buildings; each of these rooms is 42 by 36 by 16 feet high, having an octagonal end extending into the court-yard to receive the light from different quarters; each has a seating capacity for 175 pupils. The exhibition halls measure 82 by 62 feet each, having a seating capacity to accommodate the whole school of 1,000 pupils, and form a central feature of the façades. The rooms on the right and left of each hall are to be fitted up for instruction in drawing, and will be lighted from the ceiling. The chemical laboratory and lecture room for the English High School are in a separate building, octagonal in form, about 36 feet in the square, detached for the purpose of preventing any disagreeable odors from pervading the school building. It is on Montgomery Street, at the end of the school building adjoining the Baptist church, and is two stories high, the chemical lecture room on the first story, and the laboratory above. The drill-hall is a room 130 feet by 60 feet wide, and 30 feet high, and joins the two school buildings across the rear, lying between the chemical laboratory on Montgomery Street and the armory rooms on Warren Avenue; the floor of the drill-hall is of thick plank, caulked like a ship's deck, and laid upon solid concrete, and is to accommodate the whole school battalion; it can also be used for mounted drill.

The buildings will be heated and ventilated by forcing into each room a sufficient quantity of fresh air at a proper temperature which will supply each pupil with eight cubic feet per minute; the supply is admitted into the room at the side next the windows, and exhausted at the opposite side, through ducts of galvanized iron, of the same capacity as the supply ducts.

DESIGN FOR THE TOWN LIBRARY, HINGHAM, MASS. MR. S. J. F. THAYER, ARCHITECT, BOSTON.

MT. IDA MEMORIAL PRESBYTERIAN CHURCH, TROY, N. Y. MR. M. F. CUMMINGS, ARCHITECT, TROY.

This church, dedicated in October, 1878, is built of brick, relieved with Ohio-stone, black brick, and galvanized iron; it is 84 feet long, 44 feet wide, exclusive of tower and transepts, and 60 feet wide including them. The audience room is 29 feet high in the centre; the interior finish is of ash; the walls and ceiling of the audience room are painted, the windows are glazed with stained glass, and the seats are folding upholstered chairs. A gallery for organ and choir is placed in the south transept, over the vestibule. The cost of the building was $9,000.

INTERIOR OF THE DINING-ROOM IN THE HOUSE OF MR. EMMONS, BOSTON, MASS. MR. W. W. LEWIS, ARCHITECT, BOSTON.

CORRESPONDENCE.

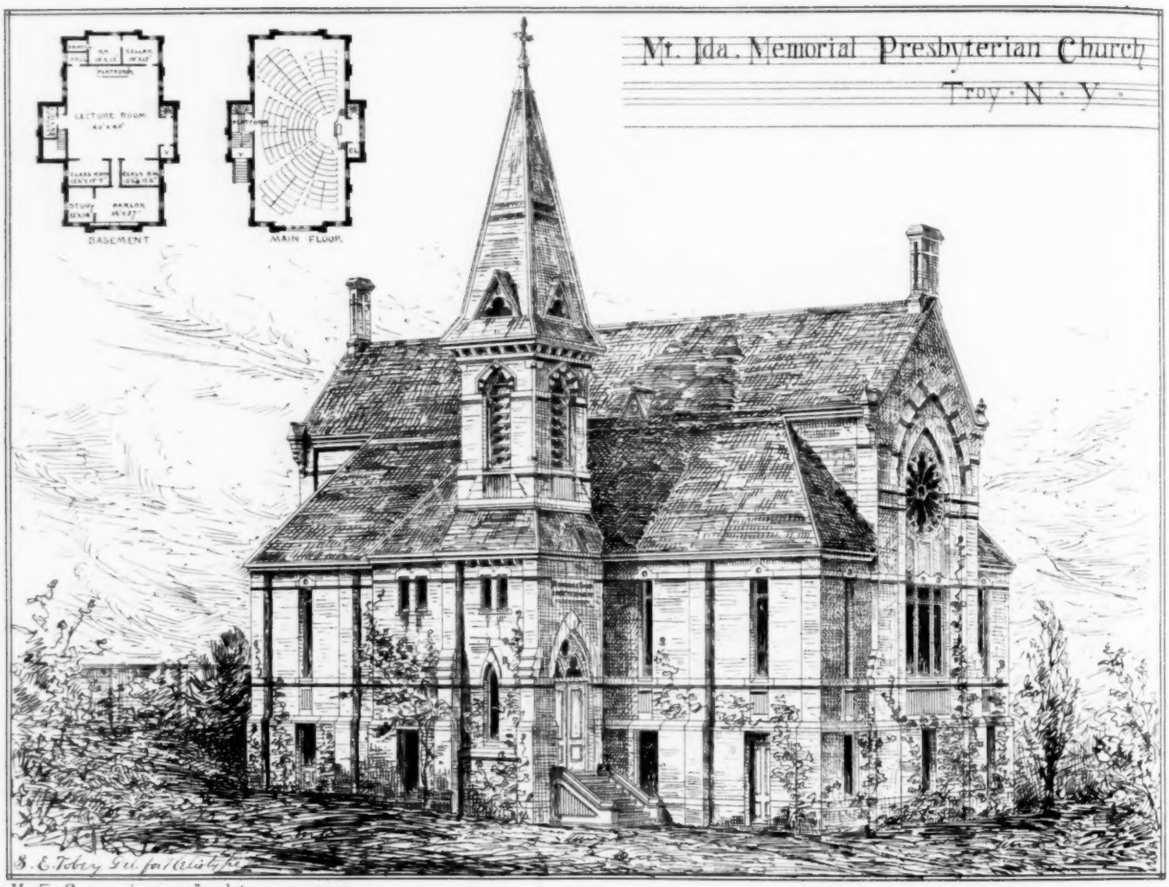
STREET-LIGHTING. — COMPETITIONS. — PUBLIC BUILDINGS.

LONDON, March 14, 1879.

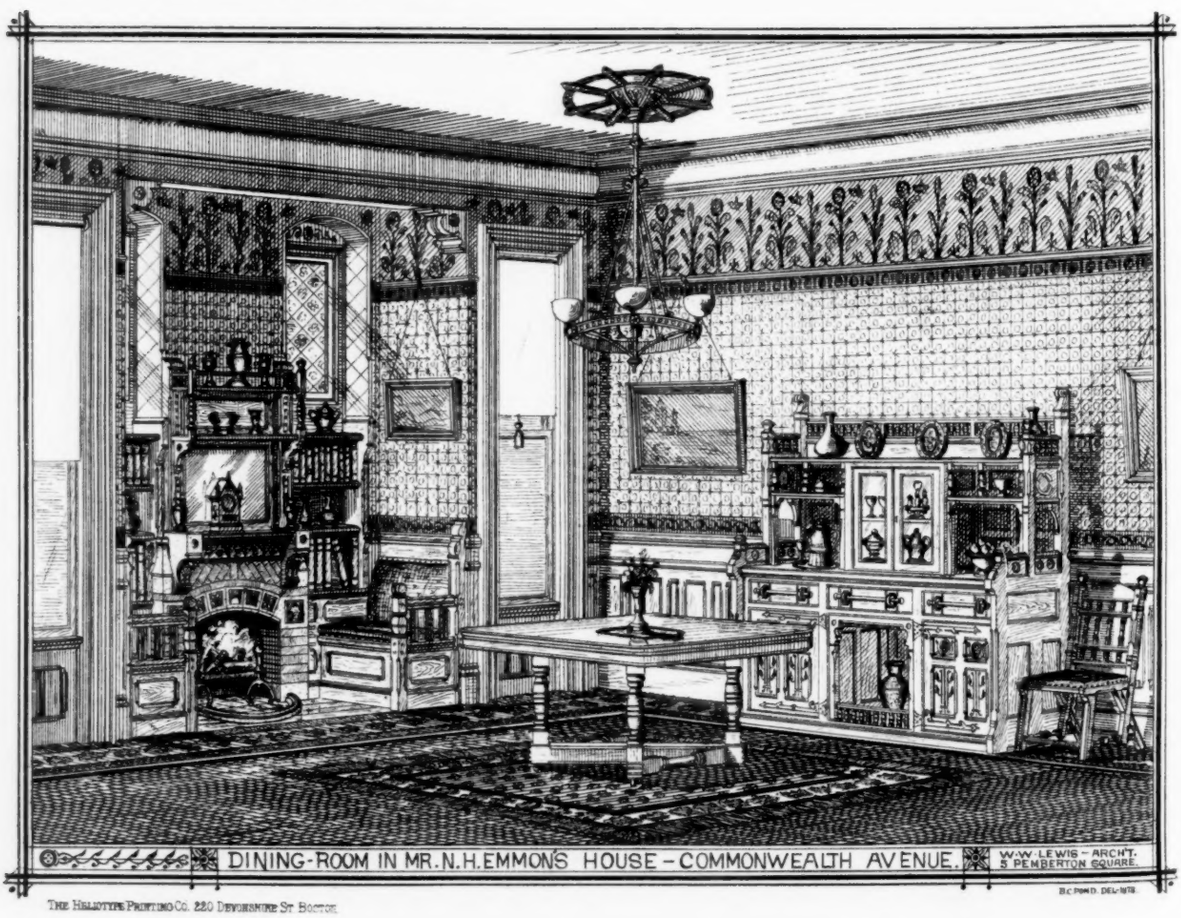
We understand that the trial of the electric lighting of the Holborn Viaduct, which has been going on during the last two months, has not induced the authorities to renew the contract, on the ground of its expense; the cost being so much greater in proportion to the increase of light, that some other means are to be tried before the electric light is adopted as the light of the future. We have not heard yet what conclusion the Metropolitan Board of Works has come to regarding its experiment on the Thames Embankment, but there can be no question that both the above thoroughfares have been better lighted than any others in the metropolis during the present winter, and it is greatly to be regretted that the question of cost should prove such a serious one. We are still awaiting the results of your clever countryman Edison's discoveries; when he gives them to the world in a practical shape, it is just possible they may cause a revolution in the cost, as they are said to do in other matters connected with electric lighting. Meantime, experiments are being made in various parts of the city, and in all manner of buildings. Several shops and warehouses are now using the electric light, notably the establishment of Messrs. Shoolbred & Co., in Tottenham Court Road, where it has given great satisfaction. Then among public buildings, both the British Museum Reading Room and the Albert Hall have been tried, the former with fair success, so that there is a prospect of the reading room being opened in the evening erelong, the danger supposed to be more or less connected with the use of gas having prevented hitherto its priceless treasures from being accessible after dusk. At present, however, there is an immense waste of power in the electric light as now used. There is far too much light, and not sufficient means of distributing it. Thick opal globes have to be used to tone down its intense glare, whereby some 40 or 50 per cent of the lighting power is wasted. Then, again, it is too white a light for general purposes, — much more so than sunlight, — so that many things, especially faces, have a ghastly hue under its almost cold blue whiteness. This, of course, could be easily remedied by toning the color of the opal globes so as to produce a warmer effect in the apartment, but no one seems to have tried it as yet. Then it is not at present self-acting. The "candles" are generally arranged in sets, and burn about an hour and a half each. As each pair is burned down, an attendant is obliged to turn the current by means of a handle to the next pair in the set; this is managed so well that not a flicker even is noticed in the transit, but should it be neglected or overlooked, then out goes the light, — a very decided drawback to the practical working of the system as at present understood. Whether Mr. Edison can help us over these difficulties remains to be seen; we hope he may, for doubtless its perfection is only a question of time. As to the cost, this is still an open question, more data being wanted to determine the relationship it bears to the cost of the production of gas; but it is manifest that with greater facility of distribution, and consequently less waste of power, must come cheapness of supply. Not to be easily beaten, however, the gas companies have come to the front with a vastly improved system of street-lighting, which is now being tried in the lower part of Regent Street, Waterloo Bridge Road, and Queen Victoria Street in the city. It consists of powerful argand burners in improved lamps, and there is certainly a vast difference in their light as compared with even the best of the old street lamps. The effect is really very fine, and though perhaps not so powerful as the electric light, it is more pleasant in many ways, especially in color. The lamps are lighted by means of a "pilot light," a small jet which is never turned out during the day: so all that is required to be done in the evening is to turn a tap in the hollow shaft of the lamp-post, and the lamp is instantly lighted; it burns on without further attention till it is turned off in a similar manner in the morning, — a simplicity of arrangement very greatly in its favor. Of course the cost is much in excess of the ordinary lamp, just as the light is, but in what proportion remains to be determined. One result, however, is said to be attained: that seven times the consumption gives eight times the lighting power, this being due to the improved construction and arrangement of the burners. Piccadilly Circus and the lower part of Regent Street are extremely well lighted, and there seems to be a certainty that at last we may look forward to seeing the streets of London decently lighted, either by gas or electricity, or by both. It may be added that the electric system principally in use is that known as the "Jablochkoff."

A good deal continues to be said on the vexed question of competitions. Recently the president of the Institute advocated a competition of "men" as against the usual competitions of designs, and the Truro Cathedral architect was selected somewhat after this fashion, as Mr. Pearson did not submit any design for the proposed building, but rested solely on his reputation and his executed works. Two important competitions going on at present have excited more than ordinary attention: one is for new public buildings at Greenock, where, after offering the usual premiums and stipulating that the committee is not bound to carry out any of the designs, it makes a condition that the architect appointed is to be paid a commission of only four per cent on the outlay. This disregard, by a public body, of the recognized charges of the profession has of course brought about vigorous protests, including official communications from the British Institute and the Glasgow Society of Architects, but without effect, the committee declining to alter its conditions.

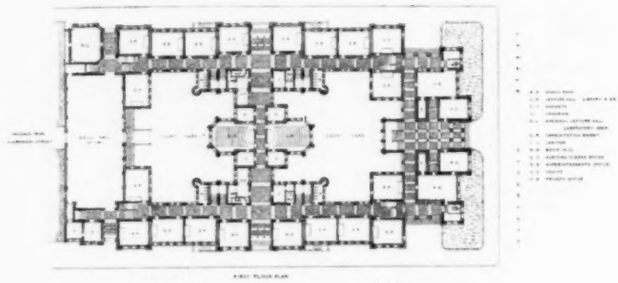
The other case is that of the City of London School. The governors propose to build new and very extensive premises on a splendid site on the Thames Embankment, and offer three premiums of £300, £200, and £100 respectively, but they ask such an enormous amount of work from the competitors that these premiums are a mere delusion. The building will probably cost some £70,000 or £80,000, if not more, and full working drawings, large-scale drawings, specification, and guaranteed estimate are required for each design. For a building of this cost the usual charge would be from £1,750 to £2,000, at two and a half per cent on the amount; so the governors become possessed of three designs for £600, for which, under ordinary circumstances, they would have to pay something like £5,000 or £6,000! This is not taking into account the value of the work of the unsuccessful men, but only those designs for which some payment is offered. The committee intend to recommend the successful competitor as architect for the work, but as a matter of fact the city architect has already prepared designs for this new school. How is it to be known that after all this first design may not be erected, or even perhaps improved by the experience gained from the three prize designs of the competition? The governors ask too much; a complete set of working plans from each competitor is fifty per cent more than is necessary to show either the fact or the intention of a design, not to mention the large-scale, — or, as architects would call them, detail drawings and specification. We are often told that the profession has the cure in its own hands: Dop't compete; for it is evident the more building committees ask, the more they are likely to get. But that is simply begging the whole question. If architects, through the medium of their recognized societies, or one of the general conferences they have been so fond of holding lately, but once agreed to a certain code of rules, on which alone they would enter into competition, and faithfully acted up to them, we should very soon have less of lowered commissions, or increased drawings, specifications, and contracts. Competition is not in itself a bad thing; many a reputation has been made through its

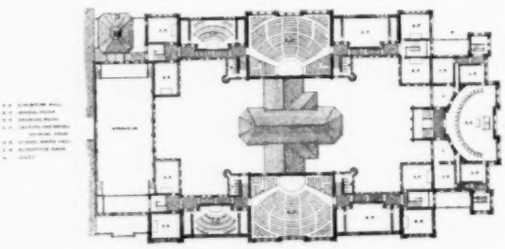


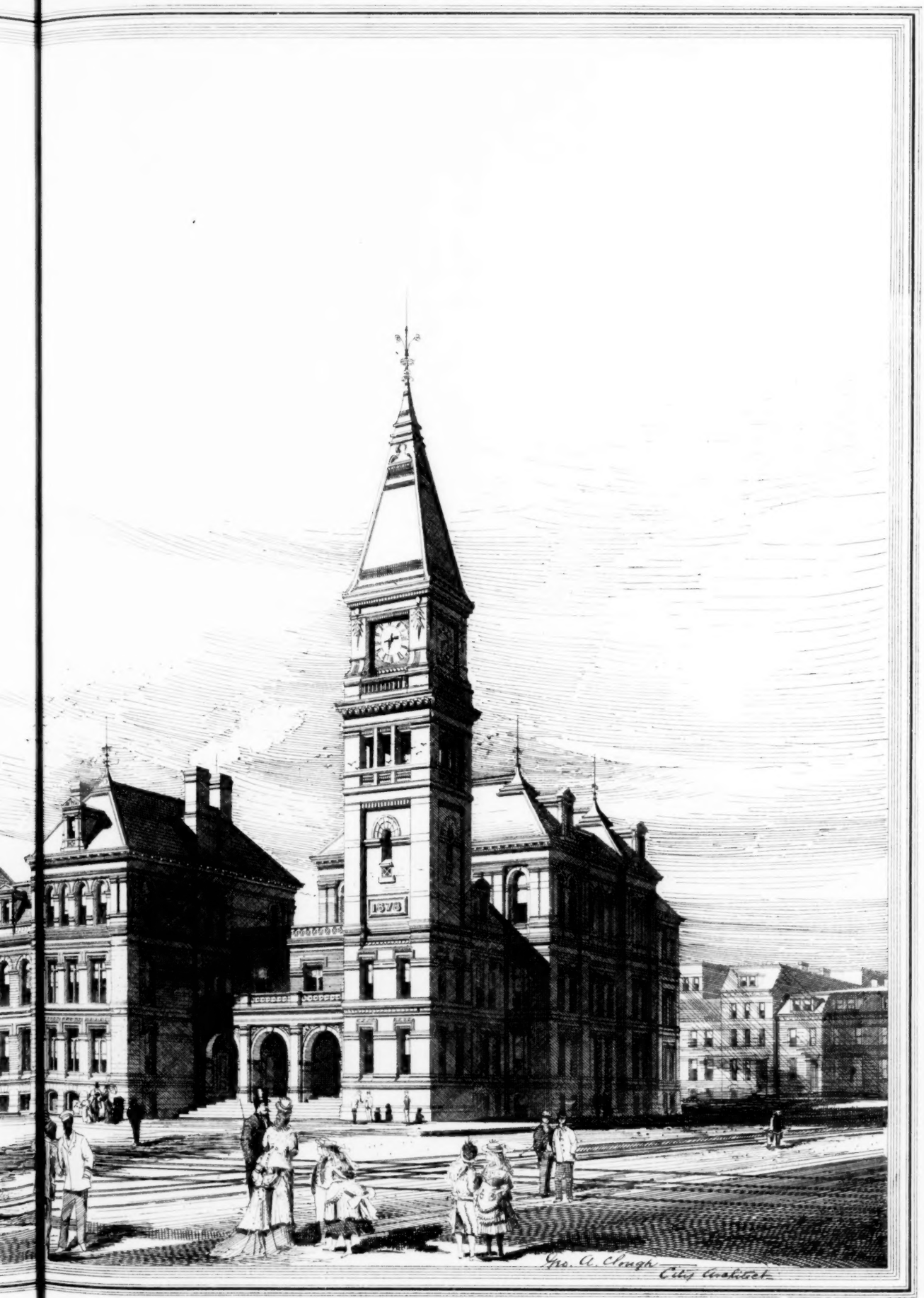
M. F. Cummings Archt TROY N·Y·



THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST BOSTON.

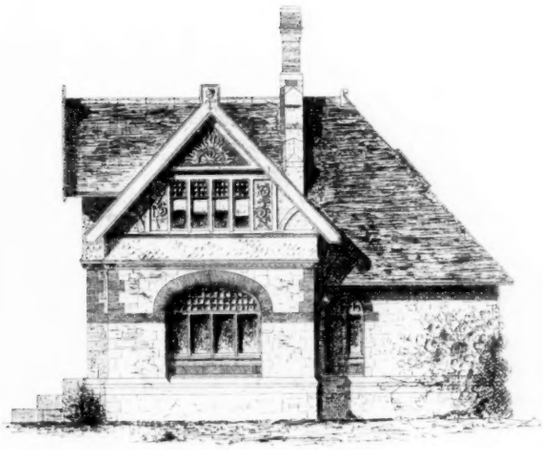






THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

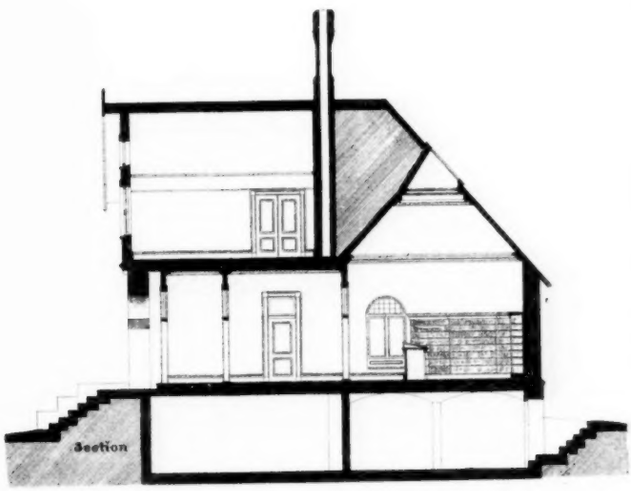
Principal Elevation



West Elevation

Design for Library Building Hingham Mass.

Plan of Principal Floor



The Heliotype Printing Co. 220 Devonshire St. Boston

means, and properly conducted it may be the means of bringing many men to the front, who, but for such an opportunity, would probably never be much heard of. The whole system wants thorough reforming, and, until this is done, its principal results can be only heart-burnings and disappointments.

After Easter the recently completed block of the New Law Courts is to be occupied for business, and many of the chancery and other officials will find themselves in quarters much more suitable for the transaction of public business than the rookeries they have been scattered about in for so many years past; but it will probably be another couple of years yet before the next portion of the vast pile is ready.

We hear that the completion of the Opera House on the Embankment having become perfectly hopeless, it is proposed to acquire the site and the building, so far as it has been built, for the purposes of a Colonial Museum, such an institution having been decided on after the close of the Paris Exhibition. The site is a very good one, and worthy a national building of some kind. The new mint is also to be erected on the Thames Embankment, so there is some prospect of the Metropolitan Board's pet roadway becoming a very fine street some day; it and the Holborn Viaduct are about the best things that have been done. It is to be hoped, though, that the architecture of the Embankment will be better looked after than that of the Viaduct, than which nothing could well be worse.

THE COMPETITIVE PLANS FOR THE NEW LEGISLATIVE BUILDINGS. — A LOCAL LAWSUIT.

ST. JOHN, N. B.

THE month of January found most of our architects busy preparing competitive designs for the New Legislative Buildings at Fredericton, N. B. The designs were sent in on the 1st of February, but remained untouched until Parliament assembled, about the end of the month, and quite recently they have been open to public inspection in the Board of Works office. No less than ten of the fourteen designs are from St. John, and as they were not sent in under a motto, or *nom de plume*, we are able to give the names of the competitors, to wit: Mr. Walter Chesterton, Ottawa; Mr. Andrew Dewar, Halifax, N. S.; Messrs. G. & G. Brown, Montreal; Messrs. Stirling & Harris, Charlottetown, P. E. I.; then from St. John we have Messrs. M. Stead & Son, Mr. Morgan Smith, Mr. Frank Kain, Mr. J. C. Dumeresque, Mr. C. O. Wickenden, Messrs. Brown & Allison, who send two designs, Messrs. McKean & Fairweather, Mr. H. F. Starbuck, and Mr. Merry.

A memorandum of instructions was given with a plan of the site, and the accommodation required was very explicitly stated. The rooms needed were enumerated, their superficial area given, and in some instances the floors on which certain rooms were to be placed. The cost of the building was not to exceed $100,000. The prizes offered were, first, $500; second, $300; and third, $100. One clause said that "no use will be made of the plans retained under the second and third premiums unless by arrangement with the authors and for proper compensation." But who is to decide whether, and how much, these plans are used, and the amount of compensation to be paid to their authors?

We infer that the decision of the judges will be based on the satisfactory way in which the instructions have been followed in the designs. The assembly room and the supreme-court rooms were required to be on the ground floor. The legislative library might, at the choice of competitors, either be detached, or form part of the main building, and it had to be fire-proof. This, and its capacity (20,000 volumes), naturally suggested its being placed also on the ground floor. The position of the legislative council-chamber was left open, and as its size was only 1,500 feet superficial, and the present legislative council-chamber is on the second floor, many of the competitors have placed it there. The chief difficulty in the planning was how to get, in a building where so great an amount of accommodation was required on the ground floor, compared with that on the upper floor, sufficient height to give dignity to the exterior. We notice that several of the competitors, in order to gain an imposing elevation, have provided more accommodation than called for on the second floor. Some have even a third floor to certain parts of the building, whilst others show elevations with dormer windows above the second floor, as if there were a third floor, but on looking at their sections we find these windows light only the space under the roofs! Clock-towers to the Gothic designs, and domes to those of classic design, seem to have struck all the designers, save one or two, as being necessary to the proper appearance and effect of a Parliament Building such as the New Brunswick legislature required.

Generally speaking, the planning is very poor, and respecting the artistic merits of the designs we would prefer saying nothing. Only four or five of the competitors have faithfully carried out the instructions, and of these, some have defective points in the plan. Many of the competitors seem to have wasted too much space in entrances and halls, and it is very questionable if such designs, with lofty domes, can be carried out for the sum named. Mr. Merry's design, for instance, has an entrance hall 30 feet wide leading into a circular "rotunda" 43 feet in diameter. The staircase hall to the left is 34 feet by 30 feet. All this seems large for the business to be done in the building.

In Mr. H. F. Starbuck's design he seems to have obtained staircase hall and entrance area, at the expense of the other rooms. His assembly room, which is an octagon 39 feet across (measuring at right angles to the sides), has not area enough for the throne, passage ways, desks and seats for sixty members, with free passage way between each. The legislative council-chamber has only 1,211 superficial feet, instead of 1,500 feet as called for in the instructions. Some of the other rooms are less in area than required; there are no committee rooms on the ground floor, and two rooms, with water-closets and urinals, have no light or air from the outside. The reading room and smoking room are in the basement. All the committee rooms are on the second floor; but there is no lavatory or water-closet on this floor.

Messrs. M. Stead & Son, one of the oldest established firms here, have sent a carefully prepared design, Gothic in style, but, like some of the others, they show no committee rooms on the ground floor. The assembly room, which is placed centrally, is lighted partly from the roof, and by a clerestory above the level of the second floor ceiling. The legislative library is a detached circular building, 50 feet in diameter, to the rear of the main building; its window sills are 30 feet from the floor line, the space below them being given to the book-shelves. There are no apparent means of ventilating this room, except by opening panes in the traceried windows. From the ground line to the vane is about 100 feet. Portions of the main building are carried up, forming a third floor, giving height to the front, and providing more accommodation than actually required.

Messrs. Stirling & Harris, of Charlottetown, P. E. I., and Mr. Walter Chesterton, of Ottawa, place the supreme court on the second floor.

Mr. Frank Kain's design covers a large area, and is badly planned; for instance, the speaker would have to traverse a distance of 114 feet from his room to the throne, and the two clerk's rooms, each 28 feet by 6 feet, are equally far from the assembly room.

Mr. J. C. Dumeresque is one of the few who have abided by the instructions, and there are some very commendable points in his plan. There is an inner area, however, which is not desirable in a country where much snow falls; and the corridor at the side of the assembly rooms has not sufficient light. The same objection might be made to the hall leading from the central hall.

The designs submitted by Messrs. R. Brown and J. C. Allison, marked respectively A and B, seem to be the least costly of all those exhibited. Design A has no more accommodation than called for, and design B only two rooms more than required. Design A has the building in two blocks, with the principal staircase in the centre between the two. The rear block has the assembly room surrounded by corridors, and all the committee rooms in connection with it. The rooms adjacent to the assembly room are only one story in height, so that the assembly room has light from three sides, the fourth being occupied by a gallery for the public. The front block has the supreme-court room and rooms in connection with it at one side of the centre, with a special entrance as well as connection with the main corridor. On the opposite side are the reading room, the smoking room, and the legislative library, which has also a separate entrance. On the second floor, to the front, are the legislative council-room and rooms in connection therewith. The style of this design is Greek in character, somewhat plain and severe. The addition of a tower or dome might have added to the effect, but the authors seem to have aimed at economy. Design B is quite different in plan, and covers less area. The legislative library is placed to the rear of the main building. The assembly room is in the centre, lighted from two sides on the second floor, and also from the roof. The committee rooms are on one side of the building, on the ground floor, and the supreme-court and barristers' rooms on the opposite side, with separate entrance. The legislative council room and rooms connected with it are on the second floor to the left. A "governor's room" and committee rooms occupy the right side of this floor. There are lavatories and water-closets on each floor, entered from the corridors.

Messrs. McKean & Fairweather's design is Gothic in style, with a central tower over the entrance. The committee rooms are ranged along the front, opening from a main corridor running parallel with the front, on the opposite side of which is the assembly room. On the left is the supreme-court and its several rooms, separated from the assembly room by open areas, which are covered over with glass roofs above the second floor. All the lavatories, water-closets, urinals, etc., and the ventilating shaft, are placed between the two areas. To the rear of the assembly room are the speaker's room and other rooms connected with the assembly room. The legislative library is detached from the main building and placed in the rear. On the second floor we have committee rooms over the corresponding rooms below, and galleries round the assembly room, and on the left of the building the legislative council room, and the several rooms connected with it.

Mr. C. O. Wickenden's design has a central staircase hall, with a dome over it. The assembly room, in his plan, is placed to the right of the central corridor, and is lighted on two sides, the front and rear. The committee rooms are ranged on each side of the central corridor leading to the legislative library in the rear. The supreme court is to the left of the central staircase, and the legislative council room is on the second floor. There is a basement plan, in which are care-takers' rooms, and other rooms suitable for offices. The front elevation shows blocks at the extreme ends, which are four stories in height, including the basement. The style is Italian Renaissance.

Quite recently an important case has been decided in our law

courts. Mr. H. F. Starbuck, architect, sued Mr. J. W. Nicholson for payment for plans which were made by him for the said J. W. Nicholson. The defendant urged that the plans made by plaintiff were for a house costing considerably more than the sum mentioned when he instructed him to prepare them. On bids being received at a high figure, the defendant left the matter in abeyance, and finally asked plaintiff, through another party, to send in his account. This plaintiff did, claiming three per cent on the cost of the house as tendered for, making his account $600. Mr. M. Stead, architect, gave evidence in the case that the charge was in accordance with the scale approved by the Institute of Architects in England and the United States, but the jury awarded the plaintiff something like $400, being three per cent on the sum the house should have cost.

The trial of a case like this suggests one or two reflections. It is well that all architects should be sufficiently paid for their work, but while taking refuge behind the code of fees adopted by the Royal Institute of British Architects and the American Institute, the public may require to know some time whether all architectural ability is of the same value.

M. C. T.

THE LOAN EXHIBITION. — NEW CHURCHES. — BUILDERS AND ARCHITECTS.

Baltimore.

On the 4th ult. the new art rooms in the recently completed Peabody Institute were for the first time thrown open to the public, the occasion being the opening of an art loan exhibition. The collections are arranged in a suite of three apartments. The first contains pottery and porcelain, bronzes, *repoussée* metal work, ivory carvings, lace, and bric-à-brac generally, while the walls are hung with ancestral portraits belonging to many of the older families of the State and city, with several pieces of Flemish and Spanish tapestry. Sèvres and Dresden porcelain of the different periods are well represented, while there are many rare pieces of Worcester, Russian, Japanese, and Chinese ware. Tiffany & Co., of New York, exhibit, among other things, some reproductions from the Di Cesnola and Castellani collections, several flagons of hammered silver, decorated with colored enamels, and a rare collection of curious watches, dating from the earliest periods, many of them richly chased and jewelled. Their examples of the ancient pottery of India, reproduced in the Royal Art School at Bombay, are worthy of study. Among the most notable bronzes is the Toying Page, by Keyser, of this city. There are also some very fine Russian and Japanese groups.

A second gallery contains a very good collection of modern paintings, nearly all taken from the private collections of this city. The third room is devoted to casts from the most important works of Rhinehart, the Baltimore sculptor, lately deceased at Rome. His heroic statue of Chief Justice Taney occupies one end of the room, while near it is a bas-relief of the sculptor, surrounded by the wreath of laurel intertwined with modelling tools sent from Rome with his remains. At the extremity of the picture gallery stands his chief work, Clyte, conceded a high rank among the works of American sculptors. The exhibition is considered a success, and has been very popular. It will remain open some time longer.

The Eutaw Place Presbyterian Church, Messrs. Dixon and Carson, architects, was dedicated on the 9th ult. The exterior is of serpentine, with ornamental parts of Berea sandstone. The interior is 58 by 78 feet, with a height at ridge of 74 feet, — dimensions which would not seem conducive to fine acoustic effect. The roof, of Southern pine, is quite elaborate, and of a single span, the thrust being chiefly resisted by immense exterior buttresses. The large east window, with stone tracery, is filled with very good stained glass, but unfortunately the organ has been placed so as almost to hide it from the interior. Most of our churches and halls of assembly are defective in not having sufficiently roomy or direct staircases, and other means of rapid egress in case of fire or panic, and this church seems to be no exception to the rule. The fact is largely owing to an absence of strict laws on the subject here. The La Fayette Square Presbyterian Church, by the same architects, is also of serpentine, with finish of light sandstone. In design it is striking as being quite a departure from the vernacular. The line of the front gable is carried nearly to the ground by a very large flying buttress, while from its point of departure another heavy flying buttress is built at right angles to the gable wall. This immense resistance is massed against a very unpretending pinnacle, which would seem to be amply sustained by the wall upon which it rests. A rectangular tower, surmounted by a very steep gabled roof, and carrying a round turret in the centre of its street face, rises from the opposite side of the front.

Not many blocks away towers the huge mass of the Pius IX. Memorial Church, by Mr. Frederick. It is built of local blue gneiss, with finish of white marble. The aisles each measure fourteen feet, and the nave twenty-eight feet, in width, while the entire width, outside of the towers, is seventy-four feet, and the length is one hundred and forty eight feet. The interior is somewhat obstructed by the iron columns of the clerestory, which are nearly three feet in diameter. It is to be vaulted in plaster.

In an evil hour, some two years ago, quite an appropriate, and the first thoroughly constructive, design in iron was erected here. Since that time we have been treated to mangled reproductions of it, adapted to all kinds of locations, the columns being squeezed together or dreadfully attenuated to suit all demands, until we are forced to cry, Hold, enough! This great facility of reproduction is almost enough to cause the profession to eschew iron for building purposes, as a substitute for brick and stone.

The architects here seem almost in danger of being superseded by the builders, "practical men," so called. A very costly dwelling is at present going up in the most fashionable part of the city, for which the architects are employed by the builder merely to furnish sketches of detail, etc. The rule, even among those who aspire to be considered judges in art, appears to be never to consult an architect, but, apparently to save the paltry five per cent, always to call first on the "practical man," and if he chooses he may deign to ask an architect to help him out. This is partly brought about by the profession in working directly for builders, and giving them partial services at greatly reduced rates, and partly by an almost universal lack of appreciation of the value of the services rendered by a trained and skilful architect.

The architectural descriptions of the daily press here are often amusing. We were informed lately that a row of houses was of "Eastlake design," with "tasty" carvings. A slip of the compositor as to the first letter could almost be pardoned oftentimes, as it would wonderfully add to the truth, if not to the beauty, of the description.

Civis.

THE MARKET-HOUSE COMPETITION AT ST. PAUL, MINN.

Minneapolis, Minn., March 27, 1879.

To the Editor of the American Architect:

Dear Sir, — Some days after my communication of the 11th, Mr. Bassford, of St. Paul, published a card in the *Pioneer Press*, making a statement in regard to the market-house competition which shows him to have acted fairly in the matter. This I at once mailed you, but from your comments in your issue for the 22d I judge it came to hand too late, if received at all. Such being the case, it is but fair to Mr. Bassford to say that from his card it appears that he and Mr. Radcliff agreed to bid four per cent, but afterwards reconsidered, and both agreed to put in a bid of three per cent for their services, after which the bids actually put in were as stated.

Yours, etc., F.

THE CONSTRUCTION OF HOSPITALS.

Philadelphia, March 24, 1879.

To the Editor of the American Architect:

Sir, — During the past ten or fifteen years a very considerable number of hospitals have been built throughout the United States, giving evidence of great liberality and of much sympathy for the sick and suffering. Many of these buildings have been very costly, and some have aimed at considerable architectural effect, but it is safe to say that few or none have been constructed with a thorough appreciation of what are the highest needs of such a building.

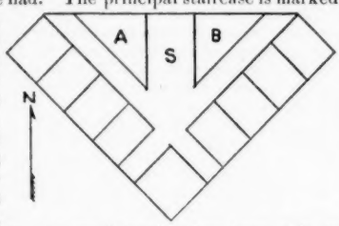
Fifteen or twenty years ago some details were first published from the Paris hospitals, proving that a considerably larger proportion of those patients recovered who were in wards having a free exposure to sunlight, than of those in wards less favored. These facts arrested attention, and were evidently very important; I endeavored to have them largely circulated in this country. Not long after, I was shown the plans of a large hospital about to be built in a New England city, and pointed out to the trustee that the architect, with a singular want of acquaintance with the needs of the case, had given the best exposure on the main floor to the apothecary's shop and various offices, whilst the sick wards had chiefly northern exposures.

The advantages of sunlight for the sick have been of late years much better understood, and faults like that just mentioned would scarcely be committed now. Efforts have been made to secure sunlight for all the wards, but not, as I think, very successfully. A fine hospital was built some years ago at Providence, R. I., in the planning of which much attention was paid to the question of sunlight, and the plan decided upon was as follows. The building was placed with its greatest length due north and south, so that the wards looked exactly east and west respectively, one set of wards receiving the morning, and the other the afternoon sun This plan was so favorably received that many hospitals since built have been constructed upon it. I am informed that this was done in the case of the Roosevelt and the Lenox hospitals of New York city, and, if I am not mistaken, the plan was adopted also by the trustees of Mr. Johns Hopkins in Baltimore.

I feel reluctant to make any criticism on a system which was the outcome of so much intelligence, thought, and painstaking labor. But this plan of construction, whilst it gives a little sunlight to all the rooms, affords a sufficiency to none, and actually throws away the most valuable of all, the winter sunshine. In the winter, the sun, even at rising, throws its rays obliquely on a due east exposure, and these rays become continually more and more oblique. As every one knows who has observed, the really effective winter sunshine is that between eleven and one o'clock, and this, upon an eastern or a western exposure, falls so very obliquely as to be of little value. In a building constructed upon the above-mentioned plan the whole midday force of the winter sun is thrown upon the narrow end of the building, which either is a blank wall, or else represents the sides of two only out of the whole number of wards. In summer, the arrangement is almost equally unfavorable. In our climates almost all the air in the hot summer weather comes from the south. A room

with a southern or nearly southern exposure will have a faint but most welcome air moving in at the window, when rooms with northern, eastern, and western exposures do not receive a breath. It thus follows that even in summer rooms with southern exposures are found the most desirable.

In the plan which I annex, I have endeavored to attack the difficulties of hospital construction in a new manner. The building has a somewhat triangular shape, and the wards all face either southeast or southwest, so that they all receive ample sunlight, and in summer get all the breeze that is to be had. The principal staircase is marked S. In the space marked A are intended to be placed the baths and water-closets on each story; also the store-rooms. In the space B is placed, on the ground floor, the kitchen; on the second floor, the apothecary's shop; on the third floor, the operating room, for which, with its north light and sky-light, it is particularly well adapted. As my intention has been only to give a general idea of the plan, I have not indicated the smaller divisions. I am aware that those architects whose main object it is to produce a showy building will object to the fact that the face on which the main staircase opens is not terminated by right angles. If this objection is insisted upon, it can be met by sacrificing a ward in the centre of one of the square sides, and treating that side as the main front of the building. I have preferred, however, to draw the plan in the manner that gives the greatest possible advantage to the interior.



Inspection will show that excellent ventilation is obtained by the halls, which cross each other at right angles; so that in whatever direction the wind may come, these halls, opening southeast, north, and southwest, must carry air through the whole building. The triangular spaces on each side of the main staircase, the shape of which would be objectionable for wards, are perfectly well adapted for the uses assigned to them. Very truly yours, M. Carey Lea.

THE COLEMAN COUNTY COURT HOUSE.

Topeka, Kansas, March 25, 1879.

To the Editors of the American Architect:

Gentlemen, — In my recent communication concerning the Coleman County (Texas) Court House, I stated the weight of materials in the construction to be 160 pounds. This is published "16 pounds." Please correct it. Yours, etc., L. M. Wood.

CERTAIN MISTAKES OF PLAN IN HOUSE-BUILDING.

When failure is the result of work involving the combined action of principal and agent, it is next to impossible to prevent the recurrence of like failure, until it is definitely settled to which of them it belongs. Thus, in such a matter as the building of houses, when wrong is done, the fault, generally speaking, lies with either the architect[1] or the owner, but in the case of most of the mistakes which I shall notice presently, the fault does not lie with the profession: not that the profession can do no wrong, but because these mistakes have their origin in something outside of the profession; in ignorance on the part of those who build, *i. e.*, the public; ignorance not so much of how to do as of what to do. The average citizen is not expected to have a familiar knowledge of strictly professional matters; on these points he asks the architect for information, whose duty it is to tell him, and who is bound to use in the telling the best of his professional skill and learning, how to build his house; but who does not tell him what sort of house he is to build. It is certainly reasonable to expect a man who is about to build a house, to know such simple matters as the number and character of the rooms he will have; but unfortunately this is what many good people do not know, and here is where the first mistake is made. For these people in their ignorance err on the side of having too many rooms. This is especially true of persons of the class of *nouveaux riches*. It may be that they would provide for the wants of a growing family; or perhaps they have a mistaken notion that the larger their house the better it will sell; but in nine cases out of every ten, it is safe to say that the real motive is an ambition which is only another name for the love of show. These persons have read somewhere that all men are free and equal; they have read somewhere else of the multitude of apartments in a British nobleman's mansion, and they straightway conclude that they, being equal to him, must do as they suppose him to do. Their notions on the subject are a jumble of hall, drawing-room, morning-room, dining-room, library, study, boudoir, billiard-room, breakfast-room, music-room, reception-room, and so on. They go to work and build a house containing all these rooms, to which they add several others of their own invention, until there is a separate room for the performance of almost every act of daily life. But as so much magnificence costs a great sum, and as there is a limit to the depth of most men's pockets, they economize by copying the stone-work of their model in wood and plaster, and the wood-work in paint; they cheapen the foundations, thus weakening the house; they make thin walls, that do not keep out the cold and wet, trusting to the hot-air furnace to remedy these defects, which it usually does with a vengeance, by baking the inhabitants in a slow oven.

If these people knew a little less than they do, or a little more, they would be better off. If they knew a little less they would be free from a very foolish ambition; if a little more, they would know that a considerable portion of their British nobleman's income is used in taking care of his well-built house, and repairing the damage done by ordinary wear and tear; and *a fortiori*, that their own badly built house would need a much greater outlay for the same purpose. Usually in this country the style of living becoming these large houses is beyond what their owners are able or willing to maintain; and the houses themselves, after a few years of unhappy residence, pass into the hands of the auctioneer.

A sensible man, in building his house, proceeds upon a very different plan. He wants just such accommodation as will be of use to him, and no more. He knows that for the average American family in good circumstances three principal rooms are sufficient: drawing-room, library, and dining-room; there is use for these, therefore he will provide them; also a hall, by means of which to reach the others, and a vestibule, or porch, or both, as shelter for the hall. He also omits that odious apartment, the family sitting-room, for he knows that the three other rooms make sitting-rooms enough, and that if any room in the house is too good for every-day use, that room has no right to exist. The habit of keeping shut-up parlors for occasional company is so absurd that it is difficult to give people who practise it credit for ordinary common sense. Such parlors are like tombs in the rare event of their being opened, and the visitor is tempted to wish that they might do duty as tombs for those who endanger his health by taking him in there.

Another common mistake of plan is the small scale of the kitchen and offices as compared with the family rooms. I will illustrate by referring to an apartment house I know of, where the drawing-room and the dining-room are each about the equivalent of twenty feet square, the library not much less, and all three connected by immense folding doors, and the kitchen is barely six feet by eight, and containing wash-tubs at that! This is an extreme case, but a great many otherwise good houses are worse off in this respect than they should be. A kitchen, if work is to be well done in it, and dinners to be well cooked, should not be less than the equivalent of fifteen feet square, and should be still larger in a large establishment, employing many servants.

The communication between the kitchen and offices and the apartments occupied by the family, and the concealment of the former from public view, are matters which are much neglected. The usual arrangement, where the kitchen is above ground, is to place between it and the dining-room the butler's pantry, with doors to both rooms, often directly in line. This makes the best possible conveyance for smells from the kitchen to the dining-room, and thence, by the simple process of opening the hall door, to the rest of the house. In the case of a basement kitchen the same result is obtained by having the basement stairs open, instead of enclosed, as they ought to be. The English manage this matter better than we. They put next the dining-room sometimes the butler's pantry, but more frequently a small serving room, opening not to the kitchen, but to a passage leading thither; and this passage is made the only means of access from the family rooms to the kitchen and offices, which are, if not in the basement, in a wing, under a separate roof from the main building, so that by the closing of one door, or at most two, all communication is cut off, and the smell of cooking does not annoy the family. The great distance of the kitchen from the dining-room in some houses might seem a fault, but it is better than the other extreme of having it too near.

The English also erect before the kitchen-wing of a house a wall of the same material as the house, and treated architecturally in the same style. This wall both conceals the kitchen and offices, and encloses that most useful feature, the house yard. That such an arrangement is very uncommon with us, I know well, the only places where I have seen it being those city lots which are fortunate enough to have an alley in the rear.

A common thing in country houses, though often omitted in city houses, is a servants' staircase. People of small means, who can have but one servant, insist upon the separate staircase for that one, while many a city family with three or more servants gets along perfectly well without it. The persistency with which country people ride this favorite hobby amounts almost to fanaticism. The second staircase, a great convenience in a very large house, is out of place in a small one, there being nowhere to put it, and to a small family is unnecessary, and therefore wasteful. The money might better be used for the kitchen yard.

The place of a veranda may seem a matter of small moment; yet this adjunct of a house may be either a great comfort or a great nuisance, according to its position. Most people seem to think it should be on the sunny side of a house, where it darkens the rooms, itself being ablaze with light, and hot as a furnace. The object of a veranda is not to keep the light out of the rooms, because this can be better done by the window hood, or by closing the shutters; but to

[1] I am aware of an apparent exception in the fact that the contractor may not do his duty; but this does not alter the rule, for theoretically, at least, the architect watches the contractor, and compels him to do right; just as in building a railroad, the work is let out to the lowest bidder, without much regard to his qualifications: it being assumed that he knows his business, besides which he is constantly looked after by the chief engineer and his assistants.

afford a cool, shady place, out of doors, and yet sheltered, for summer use. Hence it should be on the shady side of the house, or that side which is in the shade in the afternoon. Here it is really enjoyable. To provide against too much shade for the rooms behind it, there should be, if possible, one or more windows on some side of the room not covered by the veranda, or if this cannot be, the windows looking upon it should be made very large, and the veranda itself of light construction, and painted as light a color as the rest of the house will admit. And let no one be worried about too much light in the house; there are many days when there cannot be too much, and when there is, it is easy to shut it out.

A good deal of what I have written is stale enough to the architectural profession; but I know very well (perhaps the better because I am not of the profession) that though they have done and are doing much to improve the architecture of this country, they can do nothing more than what they do with the help of the public. And as this magazine is read by the architectural public, my hope of reaching that public must be my apology for having written at all.

C. C. E.

COMPETITION IN INTERIOR DECORATION.

PROGRAMME NO. III. — A GALLERY RAILING.

The subject for the third competition will be the railing inclosing the lowest gallery of a natural history museum. The railing will be 2′ 9″ high, made of brass or wrought-iron, and supporting in one way or another the gas fixtures which serve to illuminate the hall.

Required: an elevation, a perspective of a corner of the gallery, and details of railing and gas fixtures at a larger scale.

Drawings must be received at the office of the *American Architect* on or before May 10.

NOTES OF EXPERIENCE AND INEXPERIENCE.

13. Waring's Check-Valve. — "Anxious Architect" did not ask for, and he may not be satisfied with, the inventor's reply to his question (No. 168, p. 88). As I have doubtless used my check-valve more than any one else has, I am qualified to give an account of it, — due limitations because of my personal interest in the matter being applied by the reader. I regard it as a decided success. It never fails, — or hardly ever. On wash-basins and bath-tubs, where the overflow line (the valve seat) can be placed as much as ten inches below the outlet of the vessel, it discharges rapidly, and is kept clean by the flow. At less depth it may retard the outflow and accumulate lint. In the case of a kitchen sink or a pantry sink it is desirable to give even greater head. Indeed, when possible in these cases, I put the check-valve under the floor, say two feet below the outlet. With these sinks and with laundry trays I have found it better to use a round ball in place of the cup-valve, as in some instances the accumulation of grease above the cup has held it down so as to choke the outlet. Laundry waste has more or less lint, and in one case it has been found that this wound itself around the stem of the valve and kept it from opening. With the ball this cannot happen. The greater the flow the better, — a one-inch check-valve on the outlet of a set of laundry trays is sure to be kept clean by the great rush of water through it. If placed low enough below the outlet (say ten inches) it does not check the flow. It is important that the outlet of the sink be guarded by a fixed strainer, for the valve will not pass a dish-cloth, nor a potato paring. The most modest statement that I am disposed to make about the check-valve is that its use insures the absolute exclusion of drain air, and that, if properly arranged, it does not increase the usual difficulty from the accumulation of rubbish in the waste-pipe. I say this after long and thorough trial.

Geo. E. Waring, Jr.

18. Mixing Plaster In-Doors. — Does the slacking of lime in the cellar of a building, for mortar, plastering, etc., have any effect, deleterious or otherwise, on the timber of the building?

E. B.

NOTES AND CLIPPINGS.

Lighting Flouring Mills. — In order to avoid a recurrence of the disastrous explosion which last year destroyed the Washburn Mills, at Minneapolis, Minn., a new method of lighting has been adopted which promises much greater safety from fire and explosion. The jets are confined in glass lanterns to which air is supplied from the outside of the building, direct through pipes, and the jets can be turned down but not out during the daytime. By this means no flour dust, "red dog," or any of the products of the grinding can reach the blaze, and there is no exposure while lighting.

Spontaneous Combustion. — E. Bing, of Riga, has experimented with different materials, — wadding, raw flax, hemp, the waste from silk, wool and cotton spinning, as well as sponge, and finally wood dust as found in any cabinet-maker's shop. They were saturated with various fluids, namely, oils, fresh and in a gummy state, turpentine, petroleum, various varnishes, etc. All the fibrous materials took fire when saturated with any of these oils or with mixtures of the same. Sponge and wood dust, on the contrary, proved to be entirely uninflammable. Combustion ensued most rapidly with 17 g. of wadding, and 67 g. of a strong oil varnish, in 34 minutes; while 200 g of washed cotton waste, of which a portion was saturated with 750 g. of strong oil varnish, and the remainder wrapped about it, required almost 14 hours. These materials were placed in a well-sheltered spot, and subjected to a heat of from 18° to 40° (C.). Silk did not flame up, but slowly charred. Small quantities seemed to take fire sooner than large. — *Wochenschrift des Ver. deutsch. Ing.*

Mill-Owners and Fire Escapes. — The Supreme Judicial Court of Massachusetts has sent down a decision of more than ordinary interest to mill-owners and their employees, in which it is held that it is not the duty of mill proprietors to their servants employed in a building which is properly constructed for ordinary business carried on within it, to provide means of escape or to insure the safety of the servant from the consequences of fire not caused by his negligence. The issue was raised in the case of Ellen Jones against the Granite Mills Company at Fall River, in whose mill a conflagration occurred September 19, 1874, with terrible loss of life. Plaintiff was an employee of this corporation and brought action of tort to recover for injuries which she received at the time of the fire, through her inability to escape from the sixth story of the burning mill except from the gable window.

Preservation of Iron. — Captain Bourdon has devised simple forms of apparatus for coating iron with Barff's magnetic lacquer. In the course of his experiments he found that the coat of oxide could be formed by the air in the following manner: The serpentine part of a sheet-iron reservoir communicates with air which is heated to 248° F. The current of hot air, after circulating through the serpentine, reaches the cylinder which contains the articles to be lacquered. The escape spout communicates with a water aspirator regulating the flow of air, which should be very gentle. The internal pressure is little more than one atmosphere, the apparatus being in communication with the open air. The temperature of the air in the cylinder is 536° F.; the operation lasts five hours, giving a coat 0.05 of a millimeter thick (0.002 inch), of a beautiful greenish black, resisting the action of fine emery paper and of dilute sulphuric acid. After the articles are taken from the cylinder, they are rubbed with a greasy rag, and spots are removed by fine emery paper or scouring grass. Spots may generally be avoided by suspending the pieces, so that they will not touch each other or the walls. If the temperature is raised to about 572° F., a thick coat is secured, but it is apt to scale. Articles thus lacquered have been exposed to snow and rain for a month without getting any spots of rust. If the black coating is removed by emery paper, there is a grayish layer on which rust does not take much hold; the spots can easily be removed by a bit of hard wood. Barff has observed the same peculiarity in articles which have been steam lacquered. — *Annales des Ponts et Chaussées.*

Grandeur in Architecture. — "It is remarkable that architecture is the only art in which mere bulk is an element of sublimity. There is more grandeur in a Greek gem of a quarter of an inch diameter, than in the statue of Peter the Great at Petersburg. There is more grandeur in Raphael's Vision of Ezekiel than in all West's and Barry's acres of spoiled canvas. But no building of very small dimensions can be grand, and no building as lofty as the Pyramids or the Colosseum can be mean. The Pyramids are a proof; for what on earth could be viler than a pyramid thirty feet high?" — *Lord Macaulay's Journal.*

Improving the Tiber. — The Minister of Public Works at Rome has given orders to the engineers and contractors to push the work of improving the Tiber in and around the city, especially at the point of the river crossed by the picturesque old bridge of St. Angelo, which, in a measure, is to be renovated.

The Legend of Cologne Cathedral. — A correspondent of the Buffalo *Courier* relates the legend of Cologne Cathedral in a form slightly different from the one that it usually wears. He says: "As the story goes, the inventor was walking, one day, by the Rhine, trying to think out some design which should be sufficiently grand, and sketching his thoughts in the soft sand at his feet. At last he was satisfied, and said, 'It shall be like that.' 'Oh, I will show you a much better plan,' said a voice behind him, and on turning he saw the figure which has become familiar to the readers of Faust, and to the users of profane language. With his cloven hoof this newly found friend drew the outlines on the beach with startling rapidity and skill. But he had met his match in this plain German workman. He was made to explain minutely every detail, for the trembling architect knew that probably his own soul would be the price of this knowledge. Then he said to Mephistopheles, as he suddenly thought of a way out of the difficulty, 'Your plan is not quite satisfactory; I will not take it.' The soft voice of his hoof-footed visitor became a rough roar. He saw that he had been outwitted. 'You may build your cathedral according to this plan,' he shrieked, 'but you will never finish it!' This was seven hundred years ago. The satanic threat was not vain. Though multitudes of men have worked upon it for hundreds of years, the cathedral has never been finished. Now, as if in despair, the authorities have apparently turned once more to the outwitted but revengeful author of the design. The tickets of a gigantic gambling scheme, called the 'Cologne Cathedral Lottery,' are sold in every town of the empire, and the profits form a church-building fund. If the famous black gentleman is ever influenced by flattery, and by humble appeals for his assistance, we may soon expect that the curse will be removed and the great cathedral completed."

Harbor of Alexandria. — Alexandria has the largest artificial harbor in the world. The outer breakwater is two miles long; a tongue of land curves around the harbor, so that there is no exposure to the winds and waves, except the straight and deep canal which serves as an entrance. The breakwater, quays, and jetties were finished in eight years. — *Les Mondes.*

New Mode of Manufacturing White Lead. — The molten lead is poured through an iron sieve into a tank filled with water. Hereby it is converted into threads one sixth of an inch in thickness, which are now placed in vats, each of which holds about 1,000 threads. Vinegar is now poured over the lead, and immediately drawn off again. Under the influence of the air and the vinegar adhering to the metal, the latter is oxidized. The vinegar is now poured into the vat and again drawn off, when it carries away the acetate formed on the surface of the metal in solution. After this process has been repeated a number of times, the vinegar has been transformed into a concentrated solution of basic acetate of lead, from which the carbonate may be prepared by the introduction of a current of heated carbonic acid gas. The supernatant liquid, mixed with another quantity of vinegar, is used again for the same process. — *Chemiker Zeitung.*